

## Microplastics and Their Impact on Moss Ecosystem Functions: A Comprehensive Review

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### INTRODUCTION & AIM

Microplastic pollution is a growing global environmental concern affecting both terrestrial and aquatic ecosystems. This review aims to examine the role of microplastics in altering moss ecosystem functions and explore the potential of mosses as bioindicators for microplastic pollution

#### Objectives:

- To investigate how microplastics interact with mosses
- To assess the impact of microplastics on moss ecosystem functions
- To evaluate the potential of mosses as bioindicators for monitoring microplastic pollution in terrestrial ecosystems.

### METHOD

1. *Sphagnum* sampling
2. *Sphagnum* identification
3. Sample preparation
4. Microplastic Extraction
5. Characterisation and Quantification

### RESULTS & DISCUSSION

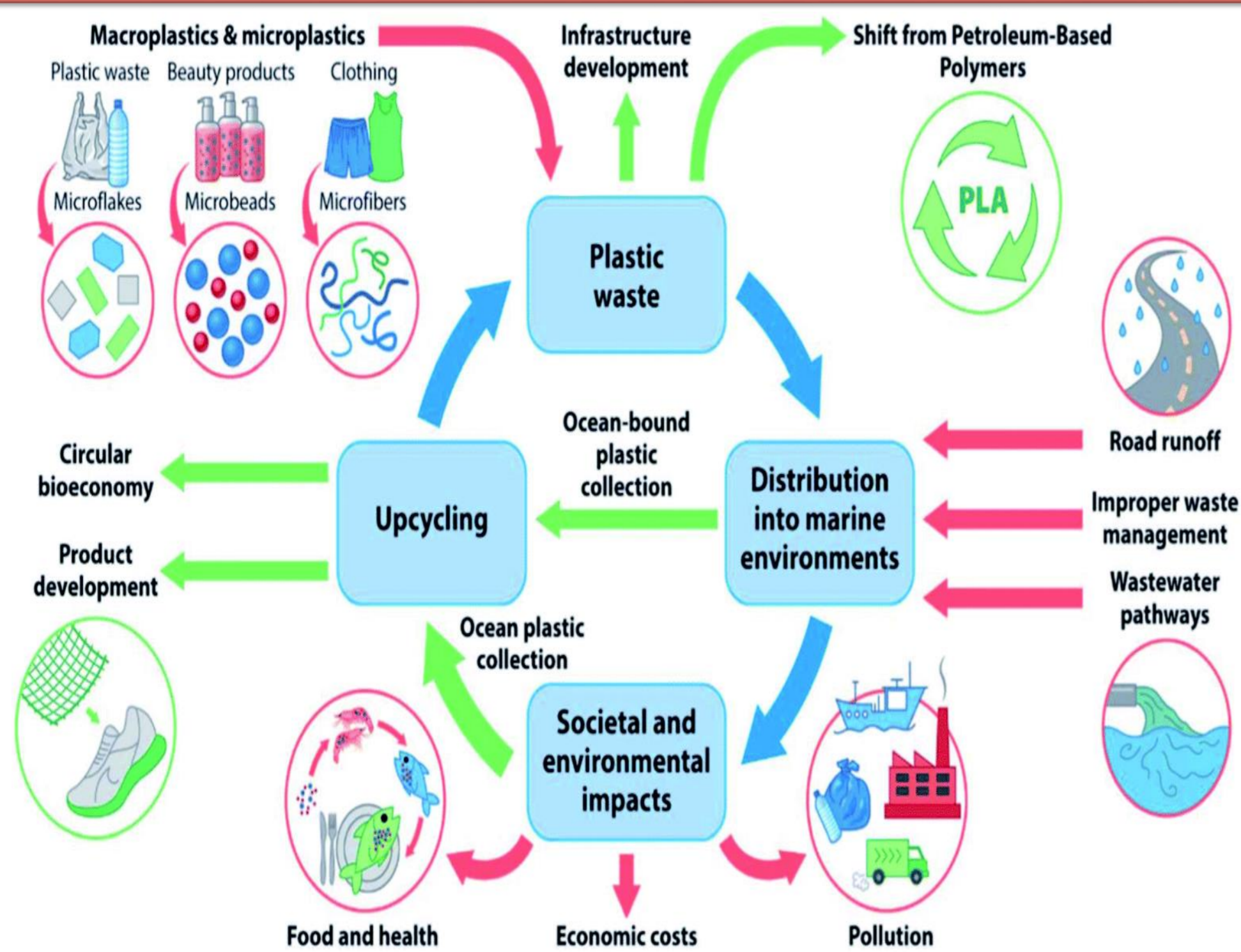


Figure 1. An overview of the sources of microplastics, their implications and migration pathways

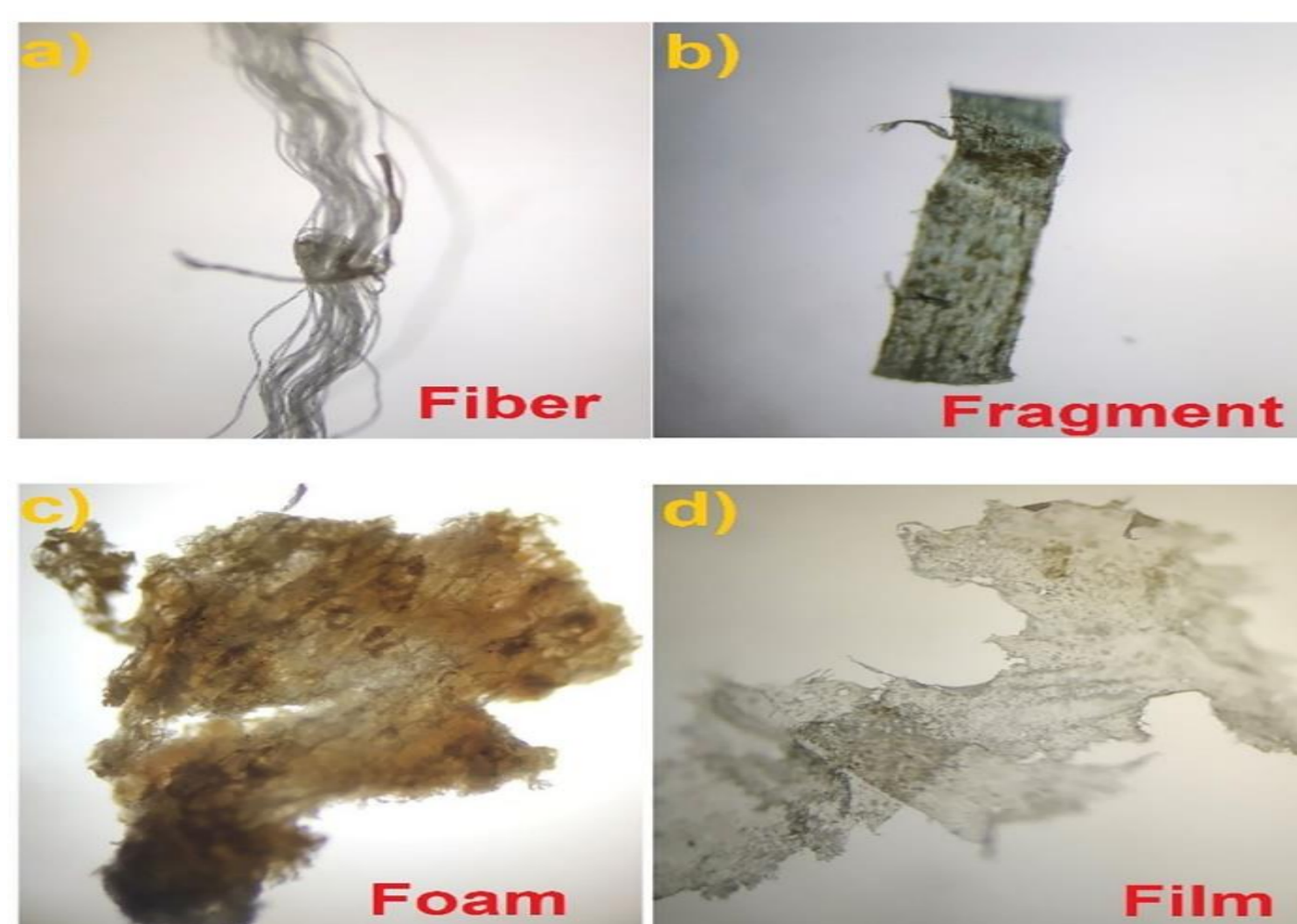


Figure 2. Examples of microplastic types identified by FT-IR in peatlands (a) fiber, (b) fragment, (c) foam, and (d) film.

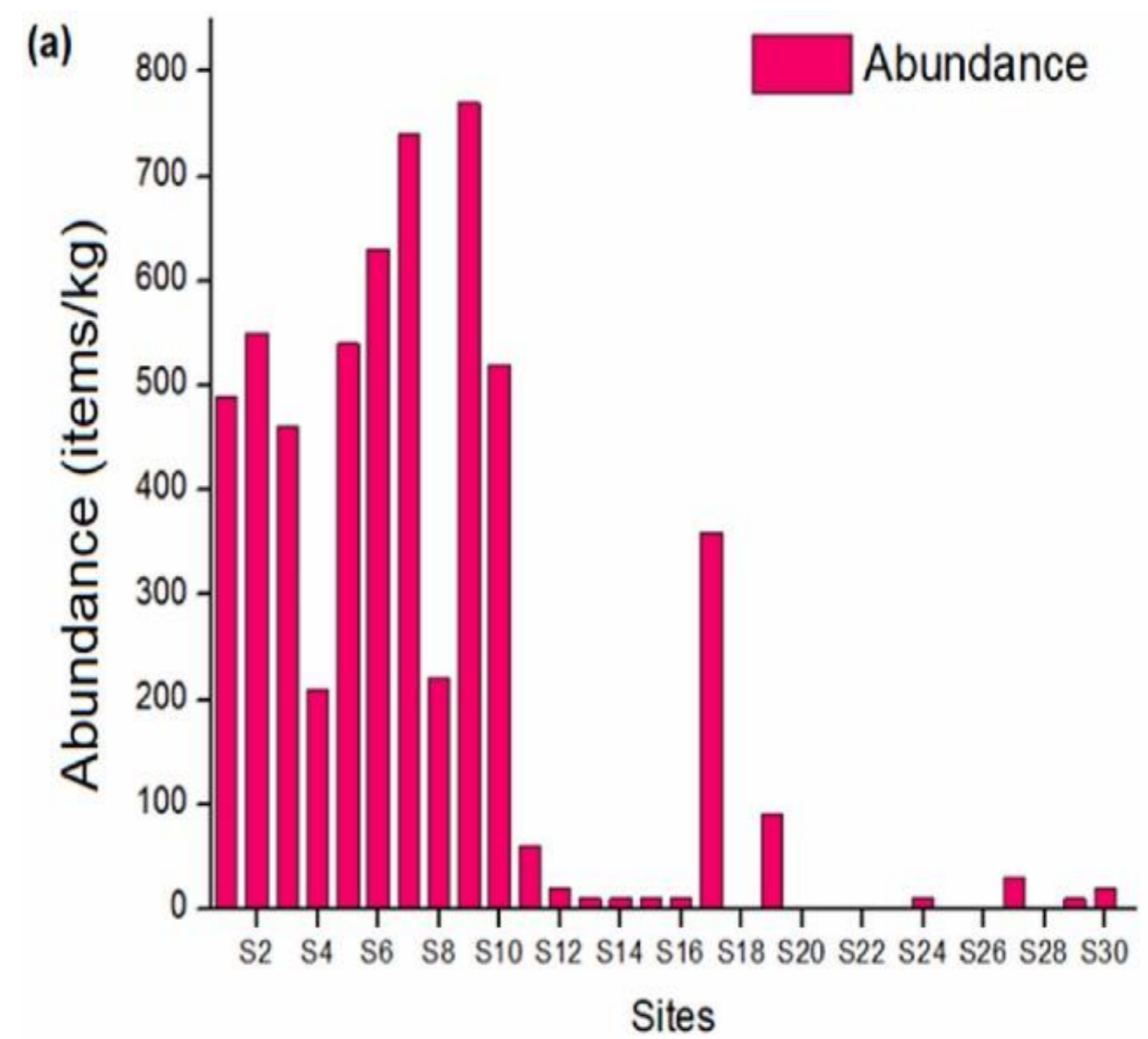


Figure 3. Results of (a) MPs distribution

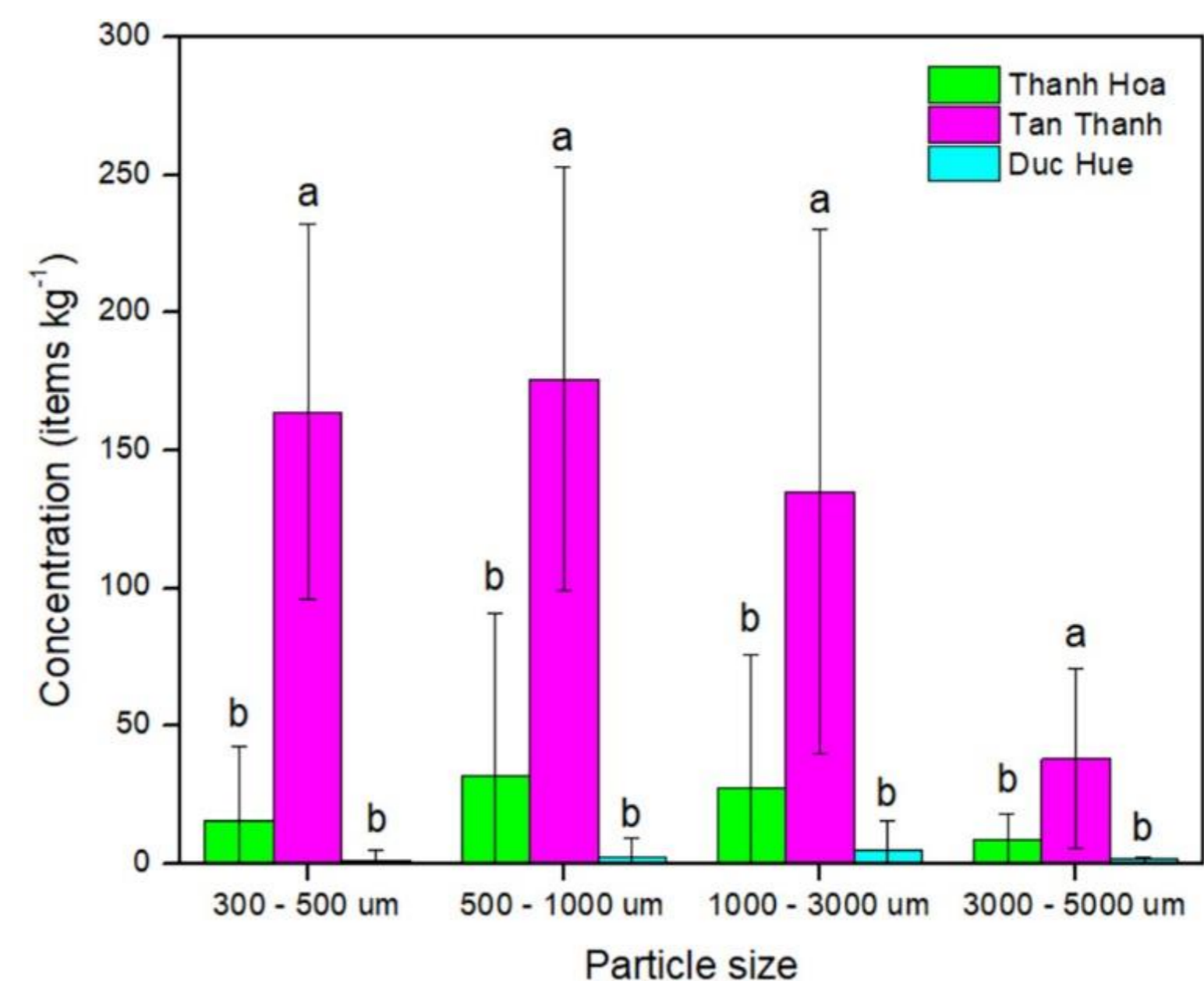


Figure 4. The abundance of microplastics in peatland areas. Letters indicate the significant difference of each particle size ( $p < 0.05$ ).

### CONCLUSION

The research demonstrates that microplastics alter moss ecosystem functions and highlights mosses' potential as bioindicators for monitoring pollution. This study emphasizes the environmental threat posed by microplastics and the need for continued research to mitigate their impact.

### REFERENCES

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2. Nguyen, M. K., Lin, C., Hung, N. T. Q., Hoang, H., Vo, D. N., & Tran, H. (2023). Investigation of ecological risk of microplastics in peatland areas: A case study in Vietnam. *Environmental Research*, 220, 115190.